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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,688	12/05/2003	Joseph C. Deaton	87219AEK	4566

7590 08/01/2006

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Rochester, NY 14650-2201

EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/729,688	DEATON ET AL.	
	Examiner	Art Unit	
	Dawn Garrett	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,10-13,17,20,22,23 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,9,14-16,18,19,21,24-28 and 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

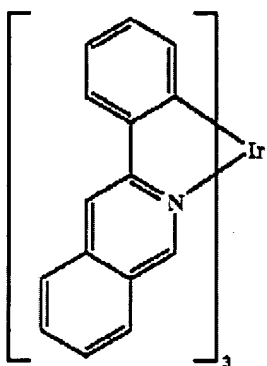
Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-30-04;4-14-05</u> . | 6) <input type="checkbox"/> Other: _____ |

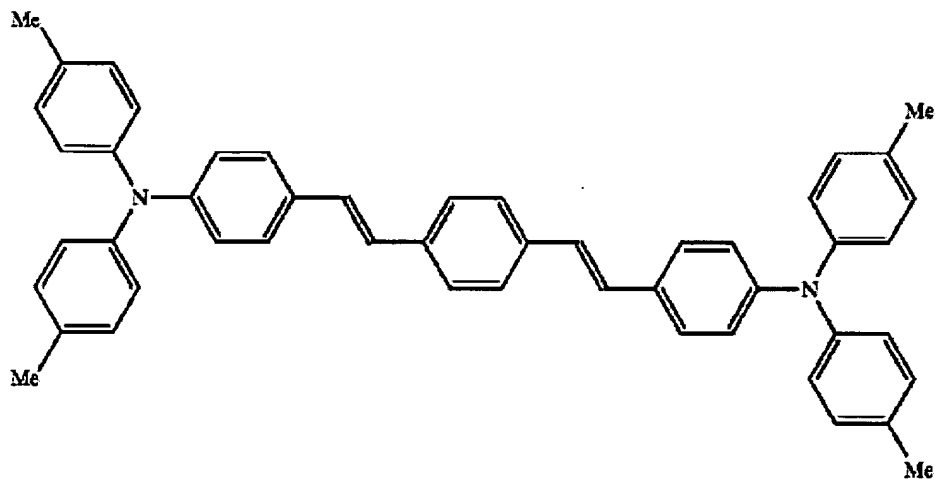
DETAILED ACTION

1. This Office action is responsive to applicant's responses to the election of species requirement dated March 21, 2006 and June 7, 2006. Applicant elected the following species:

Phosphorescent emitting material – *fac*-tris(3-phenyl-isoquinolino) Iridium (III)



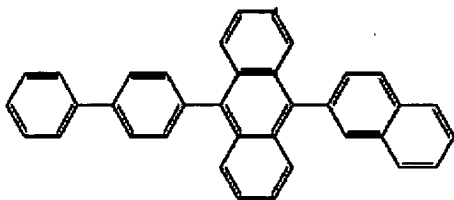
Fluorescent dopant – Formula 1c (as shown on page 10 of the specification)



Formula 1c

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Host material – Formula 3c (as shown on page 15 of the specification)



Claims 1-5, 8, 9, 14-16, 18, 19, 21, 24-28, and 30-34 read upon the species under consideration.

Claims 6, 7, 10-13, 17, 20, 22, 23, and 29 are withdrawn at this time as non-elected.

2. The amendment to the specification mailed March 21, 2006 is acknowledged.

Claim Rejections - 35 USC § 103

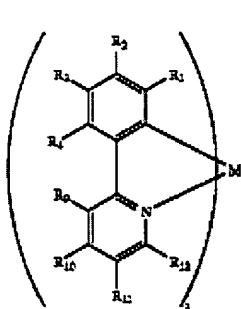
3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8, 9, 14-16, 18, 19, 21, 24-28, and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Andrade et al. (US 2002/0197511) in view of Fukuoka et al. (US 6,713,192), Hosokawa et al. (US 5,121,029) and Kwong et al. (US 2004/0241495). D'Andrade et al. discloses OLEDs comprising an emissive region wherein the emissive region comprises a host material, and a plurality of emissive dopants, wherein the emissive region is comprised of a plurality of bands and each emissive dopant is doped into a separate band within the emissive region, and wherein at least one of the emissive dopants emits light by phosphorescence (see abstract). D'Andrade et al. teaches the region maybe comprised of multiple emitting layers (see

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par. 59). Although D'Andrade et al. does not appear to teach the specific phosphorescent compound Ir(piq) species currently under consideration, D'Andrade et al. generally teaches a phosphorescent dopant is desired for at least one of the emissive dopants (see abstract and par. 36). Kwong et al. teaches in analogous art the following compound formula as a phosphorescent emitting substance for an OLED (see page 2):



[0011] M is a metal atom;

[0012] each R¹, R², R³, R⁴, R⁵, R⁶, R⁷, and R⁸ is, independently, H, F, Cl, Br, I, R, OR, N(R)₂, SR, C(O)R, C(O)OR, C(O)N(R)₂, CN, NO₂, SO₂, SOR, SO₂R, SO₃R; and additionally, or alternatively, any one or more of R¹ and R², or R³ and R⁴, or R⁵ and R⁶, or R⁷ and R⁸, or R¹⁰ and R¹¹, or R¹² and R¹³, together form, independently, a fused 4- to 7-membered cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein said cyclic group is optionally substituted by one or more substituents X;

[0013] each R is, independently, H, C₁-C₂₀ alkyl, C₁-C₂₀ alkenyl, C₂-C₂₀ alkynyl, C₁-C₂₀ heteroalkyl, C₁-C₄₀ aryl, C₂-C₄₀ heteroaryl, aralkyl; wherein R is optionally substituted by one or more substituents X;

[0014] each X is, independently, H, F, Cl, Br, I, R', O R', N(R')₂, SR', C(O)R', C(O)OR', C(O)N(R')₂, CN, NO₂, SO₂, SOR', SO₂R', or SO₃R';

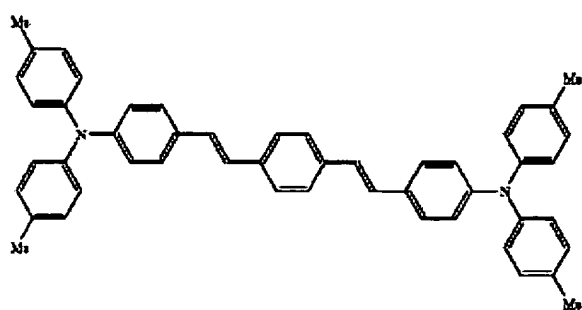
[0015] each R' is, independently, H, C₁-C₂₀ alkyl, C₁-C₂₀ perhaloalkyl, C₂-C₂₀ alkenyl, C₂-C₂₀ alkynyl, C₁-C₂₀ heteroalkyl, C₂-C₄₀ aryl, or C₂-C₄₀ heteroaryl; and

[0016] wherein at least one of R¹, R², R³, R⁴, R⁵, R⁶, R⁷, and R⁸ is not H.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the iridium phosphorescent compound taught by Kwong et al. as a phosphorescent compound for the D'Andrade et al. device, because D'Andrade et al. teaches an emitting

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phosphorescent dopant is desirable for one of the light emitting layers. D'Andrade et al. further teaches an emissive layer with a fluorescent dopant and a host (see par. 41). Fukuoka et al. teaches it is known in the art to form an emissive layer comprising anthracene host materials (per the anthracene species under consideration presently, see col. 3, line 61 to col. 4, line 6) doped with a luminescent fluorescent compound (see col. 5, lines 46-51). Fukuoka et al. further teaches a suitable amount of fluorescent dopant in the light emitting layer is 100:2 to 1:1 (see col. 38, lines 14-19) per claim 14. It would have been obvious to one of ordinary skill in the art to have selected the anthracene material taught by Fukuoka et al. as a host material for an emissive layer of the D'Andrade et al. device, because D'Andrade et al. teaches doped emissive layers and one would expect the emissive layer using the anthracene derivatives taught by Fukuoka et al. to be similarly useful in the D'Andrade et al. device. Further it would have been obvious to have included a fluorescent material in the amount taught by Fukuoka et al., because one would expect the amounts taught by Fukuoka et al. to be similarly useful in the D'Andrade et al. device. D'Andrade et al. fails to teach the following specific styryl fluorescent compound species currently under consideration, but does teach a fluorescent dopant is desired:



Hosokawa et al. teaches in analogous art the above formula as a light emitting material (see col. 33-34). It would have been obvious to one of ordinary skill in the art at the time of the invention

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to have selected the above styryl compound as the fluorescent dopant for a D'Andrade et al. light emission layer comprising a fluorescent compound, because Hosokawa et al. teaches the compound is light emitting and one would expect the compound to be similarly useful as a light emitting compound in the D'Andrade et al. device.

With regard to the properties recited in claims 2-5, since materials claimed by applicant are rendered obvious the same materials are considered to have the same properties absent evidence otherwise. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. *In re Fitzgerald*, 205 USPQ 597, *In re Best*, 195 USPQ 430.

With regard to claim 30, D'Andrade et al. teaches doping levels between 6% and 9% (see par. 79).

With regard to claim 32, D'Andrade et al. teaches the emissive region can be tuned with dopants to produce any color of light including white light (see par. 40).

With regard to claims 31 and 33, D'Andrade et al. discloses display panels and light sources as applications for the OLEDs (see par. 2).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re*

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Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-5, 8, 9, 14-16, 18, 19, 21, 24-28, and 30-34 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12, 15-18, 20, 21, and 26-33 of copending Application No. 10/729,328. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. '328 also requires two light emitting layers and sets forth the same materials for these light emitting layers as required by the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett
Primary Examiner
Art Unit 1774